1. What are different types of variables, including integral data types.

Int, floating point data types, and character data types.   
Floating point data types, and character data types.   


1. You can perform a variety of mathematical operations in Java, including:

Basic arithmetic, Boolean algebra and bitwise operations on binary numbers.   
Boolean algebra and bitwise operations on binary numbers.   
Bitwise operations on binary numbers. 

1. Sometimes you will need to convert one data type to another. What is this called?

Typing   Casting   Hiding   Leave blank 

1. The math class contains a large number of math functions. Which belong to the group?

sine, cosine, negative   
random, positive   
cosine, exponent, log, max, abs, asine, atan, ceil,min,pow,random,rint 

1. What command line is used to print out to the screen.

system.pintln.out   
cout   
jout   
System.out.println   
<< 

1. The switch(variable) statement with the case options is used for:

Checking one option   
Multiple decisions   
Switching to another mode. 

1. All the case values for a switch are enclosed between the braces for the switch statement and they can appear in any order.

True   False   

1. There is not a case value for each possible choice in the switch, and they must all be unique.

True   False   

1. The default case is optional in a switch statement.

True   False   

1. What does initialize mean?

To begin.   
To assign a value as a starting point to a variable.   
To assign a value as an ending point to a variable.   
To end. 

1. What does this statement do:

int num = 1 + (int)(99.\*Math.random());

Sets a number to the value of 1.   
Uses the math.h library to set the number to 99.   
Sets num to work as a random value from 1 to 100.   


1. What does this statement mean:

if (expression) statement;

Expression can not be any that produces a value true or false.   
If the value of expression is true, the statement on the line after the if is executed, otherwise it is ignored. 

1. Modulus operator symbol % is used in what circumstances?

To begin. Where you may want division with decimal values.   
Where you may want division to return an integer value only.   
Where you may want the remainder by division.

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What is a *source program*?

|  |
| --- |
| **a.** The program that the processor is executing a particular instant. |
| **b.** The master CD-ROM disk used to make all copies for commercial distribution. |
| **c.** A text file created by a programmer containing instructions written in a high level language. |
| **d.** A collection of machine instructions that the processor can execute. |



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2. What does a computer language *compiler* do? (Check all answers that apply)

|  |
| --- |
| **1.** It takes a source file as input produces an executable file as output. |
| **2.** It takes an executable program as input and creates a source program. |
| **3.**Finds all syntactic errors in the source code. |
| **4.**Loads an executable file into main memory and runs it. |
| **5.**It translates a program in secondary memory into a program in primary memory. |
| **6.**Finds all semantic errors in the source code. |



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3. What does a Java compiler do? (Check all true answers)

|  |
| --- |
| **1.** Translates a Java source file of type .java into a Windows executable file of type .exe. |
| **2.** Translates Java source code into JVM bytecode and stores the bytecode into .class files. |
| **3.** Finds all syntactic errors in a Java source file. |
| **4.** Finds all logical errors in a Java source file. |
| **5.** Generates a .class file *only if* the source code contains no syntactic errors. |
| **6.** Generates a .class file *only if* the source code contains no syntax and no logical errors. |



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4. What is a Java Interpreter? (Check all true answers)

|  |
| --- |
| **1.** Translates a .java file into a .class file. |
| **2.** Executes a .java file, one line at a time, using a real processor. |
| **3.** Executes a .class file, using a real processor. |
| **4.** Generates Java bytecode for the JVM. |
| **5.** Executes bytecode instructions using a real processor. |
| **6.** Simulates the JVM using a real processor. |



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5. What command do you use in Windows *and* in Unix *to compile* the file Hello.java?

|  |
| --- |
| **a.** java Hello.java |
| **b.** javac hello.java |
| **c.** javac Hello |
| **d.** javac Hello.java |
| **e.** vi Hello.java |
| **f.** The commands used to compile a .java file are different in Windows and in Unix. |



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6. What command do you use in Windows *and* in Unix *to execute* the Java program Hello.class?

|  |
| --- |
| **a.** java hello |
| **b.** run Hello |
| **c.** java Hello |
| **d.** java Hello.class |
| **e.** vi Hello.class |
| **f.**The commands used to execute a Java program are different in Windows and in Unix. |



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7. What is a correct syntax for the main() *method header* in a Java application?

|  |
| --- |
| **a.** static public void main() |
| **b.** public void static main(String[] a) |
| **c.** public static void main(String[] a) |
| **d.** public static void main(String a) |
| **e.** public void static main(String[] a) |



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8. Which of the folowing are valid *Java Identifiers*? (Check all that apply)

|  |
| --- |
| **1.** thisIsAnIdentifier |
| **2.** thisIsNotAnIdentifier |
| **3.** String |
| **4.** public |
| **5.** testing123 |
| **6.** $199 |
| **7.** $199.95 |
| **8.** HereIsA$20 |



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9. Which of the following are Java *keywords*? (Check all that apply)

|  |
| --- |
| **1.** main |
| **2.** static |
| **3.** void |
| **4.** String |
| **5.** comments |
| **6.** thisIsAKeyword |
| **7.** class |
| **8.** Class |



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10. Which of the following are complete, valid Java *comments*? (Check all that apply)

|  |
| --- |
| **1.** /\* This is the start of the program |
| **2.** /\* This is the start of the program \*/ |
| **3.** // This is the start of the program |
| **4.** //// This is the start of the program |
| **5.** /\* one // two |
| **6.** // one /\* two |
| **7.** /\* no comment /\* |
| **8.** // no comment // |



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11. Which statement about Java programs is TRUE ?

|  |
| --- |
| **a.** There must be only one class in a source code file. |
| **b.** There may be any number *of any kind* of classes in a source code file. |
| **c.** No executable code can exist outside of a class. |
| **d.** For the same source code, the Java bytecode produced by the compiler is different, depending on the operating system. |
| **e.** A program will not run if it does not have at least one comment. |
| **f.** The name of the source code file may be any name we choose. |



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12. Which statement about Java programs is FALSE ?

|  |
| --- |
| **a.** The compiler ignores any text between // and the end of a line of code. |
| **b.** The compiler ignores any text between /\* and the end of a line of code. |
| **c.** A comment may begin with /\* and end, possibly on another line, with \*/ |
| **d.** A comment may begin with /\* and end, possibly on the same line, with \*/ |
| **e.** A comment that begins with // cannot continue on the next line. |
| **f.** A comment that begins with /\*\* is a javadoc comment. |

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14. Which of the following programming errors are *syntactic errors*? (Check all that apply)

|  |
| --- |
| **1.** Multiplying two numbers when you meant to add them |
| **2.** Dividing 100 by zero |
| **3.** Dividing zero by zero |
| **4.** Bad spelling of a word on the program output. |
| **5.** Program outputs the wrong results. |
| **6.** Typing a Main when you meant to type main |
| **7.** Leaving out a ; (semi-colon) which is required by the Java language. |

20. Write down the output for the following program segments:

for ( N = 3; N <= 36; N++ ) {

if ( N % 3 == 0 )

System.out.println( N );

}

------------------------------------------------

public static void main(String[] args) {

int N;

N = 1;

while (N <= 32) {

N = 2 \* N;

System.out.println(N);

}

}

public static void main(String[] args) {

int x,y;

x = 5;

y = 1;

while (x > 0) {

x = x - 1;

y = y \* x;

System.out.println(y);

}

}

X Y Output

String name;

int i;

boolean startWord;

name = "Richard M. Nixon";

startWord = true;

for (i = 0; i < name.length(); i++) {

if (startWord)

System.out.println(name.charAt(i));

if (name.charAt(i) == ' ')

startWord = true;

else

startWord = false;

}